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IN THE

Supreme Court of the United States

OCTOBER TERM, 1982

METROPOLITAN EDISON COMPANY,
JERSEY CENTRAL POWER & LIGHT COMPANY
AND PENNSYLVANIA ELECTRIC COMPANY,
Petitioners,

v.

PEOPLE AGAINST NUCLEAR ENERGY, *et al.*,
Respondents.

UNITED STATES NUCLEAR REGULATORY COMMISSION
AND THE UNITED STATES OF AMERICA,
Petitioners,

v.

PEOPLE AGAINST NUCLEAR ENERGY, *et al.*,
Respondents.

On Petitions for a Writ of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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BRIEF OF *AMICUS CURIAE* SCIENTISTS AND ENGINEERS FOR SECURE ENERGY, INC. IN SUPPORT OF PETITIONS FOR A WRIT OF CERTIORARI

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BRIEF OF *AMICUS CURIAE*

In accordance with this Court's Rule 36.1, Scientists and Engineers for Secure Energy, Inc. ("SE_2") has received and filed with this Court the written consents of the parties to appear as *amicus curiae* in this proceeding. This brief is submitted by SE_2 in support of the petitions for certiorari filed by Metropolitan Edison Company, Jersey Central Power & Light Company and Pennsylvania Electric Company, No. 81-2399, and by the United States Nuclear Regulatory Commission and the United States of America, No. 82-358, seeking review of the District of Columbia Circuit's decision in *People Against Nuclear Energy v. United States Nuclear Regulatory Commission*, 678 F.2d 222 (D.C. Cir. 1982) (Pet. App. 1a-76a).[1]

INTEREST OF SCIENTISTS AND ENGINEERS FOR SECURE ENERGY, INC.

SE_2 supports the petitions for a writ of certiorari to the judgment and opinion of the United States Court of Appeals for the District of Columbia Circuit in this matter. SE_2 is an incorporated nationwide organization, formed in the Spring of 1976, of over 1000 faculty members and researchers from American colleges and universities, both State and private, and other persons engaged in the sciences. Its purpose is to correct the alarming degree of misunderstanding on fundamental scientific and technological issues permeating the national energy debate, especially with respect to the balancing of environmental concerns. In pursuing this objective, SE_2 is committed to offering its views, based on the considerable knowledge and expertise of its members, to the public and to the various governmental agencies with responsibility for the development of a proper legal framework for the

[1] Because the petition for a writ of certiorari filed by the United States, No. 82-358, refers to the Petitioners' Appendix in No. 81-2399, we also refer to that appendix. Hereinafter, "Pet. App." signifies that appendix.

resolution of energy issues, including participation in judicial proceedings.

As citizens, members of SE_2 are deeply concerned for the well-being and future hopes of our society. SE_2 and its members have an interest in assuring that consideration of major federal actions is conducted under NEPA in accord with scientific principles and that debate of pseudo-scientific questions be excluded from the decision-making process. Therefore, they support the petitions urging the Court to review and reverse the decision of the court of appeals in this matter.

As scientists and engineers they are keenly aware of the many problems related to the production of needed electric power and the importance of a safe and secure energy base for the continued prosperity of the Country.

In their professional roles they are also keenly sensitive to the limits of scientific knowledge and meaningful debate.[2] They view the decision below as reaching beyond those limits to require a consideration of contentions not within the capability of science. In their view, that decision perverts scientific principles and the Commission's Congressional mandate by changing the issue from whether there is reasonable scientific and engineering assurance not to have fear, to whether fear may exist in the future regardless of a reasonable basis. It would transform a modern technical decisionmaking process into an elusive medieval quest to allay superstition, irrational fear and media-enhanced hysteria.

By abolishing appropriate limitations and thresholds for environmental consideration, the court of appeals would open the floodgates of endless, unrestrained, and uncontrollable regulatory filibuster.

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[2] Jack Zusman, M.D., Director of the Mental Health Institute of the University of Southern Florida, provided particularly valuable assistance in the preparation of the medical and scientific aspects of this brief.

STATEMENT

In the wake of the accident at Three Mile Island Unit 2 ("TMI-2"), the Nuclear Regulatory Commission ("Commission") issued an order requiring that Three Mile Island Unit 1 ("TMI-1"), which had been shut down at the time by the licensee for routine maintenance and refueling, remain in a cold shutdown condition until after a public hearing on the issue of restart. (Pet. App. 3a-4a).

On August 9, 1979, the Commission established an Atomic Safety and Licensing Board ("Board") to rule on petitions to intervene, conduct a hearing, and certify the record to the Commission itself for final decision (Pet. App. 4a). In its discussion of the procedures to be followed at the hearing, the Commission explicitly addressed the certification procedure for psychological distress issues. On September 21, 1979, the Board scheduled a special prehearing conference to consider those psychological distress contentions.[3] The Board required that petitioners for leave to intervene provide the Commission staff and the licensee with draft contentions by October 5, 1979 and final contentions, "together with the bases for each contention set forth with reasonable specificity pursuant to § 2.714(b)," and briefs on psychological distress.[4]

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[3] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit No. 1* (ASLB, Sept. 21, 1979) (Memorandum and Order Ruling on Petitions and Setting Special Prehearing Conference) (unpublished), slip op. at 26.

[4] *Id.* at 24-25. In particular, the Board stated: "So that we may make appropriate recommendations to the Commission, we request any party or petitioner seeking to litigate psychological issues to submit a preliminary plan for the presentation of psychological distress evidence. The plan should address the expected availability of expert testimony; factual testimony; and evidence of indirect indicators of continuing psychological distress, such as population relocations and real estate values. Of particular value would be a

On October 1, 1979, People Against Nuclear Energy ("PANE") moved for an order deleting the Board's request for a preliminary evidentiary plan. On October 16, 1979, the Board denied PANE's Motion but granted PANE an extension of time in which to comply with its order.[5] On October 5, 1979, PANE submitted draft contentions for consideration (Pet. App. 115a-116a).

PANE's Contention No. 1 alleges that its members living in the communities around the TMI plant suffered fear, trauma, and distress from the accident at TMI-2 and that the renewed operation of TMI-1 would cause additional severe psychological distress (Pet. App. 115a).

PANE resisted the Board's request for a discussion of the state of the art of stress psychology, but briefly addressed the development of the case law establishing a cause of action in tort for mental distress damages and the ability of psychiatry and clinical psychology to establish a causal relationship between the injury and the defendant's conduct.[6]

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discussion of the state of the art of stress psychology and whether it can produce reliable evidence on the subject at hand. As noted above, we are requesting a preliminary plan, and do not intend to bind the parties to a final approach to litigating the issue."

[5] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit No. 1* (Oct. 16, 1979) (Memorandum and Order on Motions to Modify) (unpublished), slip op. at 2.

[6] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit 1* (Oct. 22, 1979) (PANE Brief in Support of Psychological Distress Contentions) at 7-12. In conclusory fashion, PANE stated that:

> the available information establishes that there is a recognized diagnosis for exactly the type of psychological distress claim that PANE is now asserting. The diagnosable condition of "post-traumatic stress disorder" has now been recognized and included in the most recent draft of the Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association (DSM-III) . . . .

Id. at 12-13. PANE's discussion of the ability of stress psychology to diagnose mental injury or illness relates to measurement

The staff argued that NEPA does not require consideration of potential psychological distress, noting[7] that "an agency need not engage in speculative prognostication as a part of the impact statement process."

The licensee similarly argued that PANE's psychological distress contention was not cognizable by the Commission under NEPA.[8]

In accordance with the Board's second Order, PANE finally filed a preliminary plan for the presentation of evidence on psychological distress and also a brief in reply to the briefs of the licensee and the staff.

On February 22, 1980, the Board issued its "Certification to the Commission on Psychological Distress Issues."[9] In certifying the record to the Commission, the Board stated its opinion that the Commission, within its discretion, may and should consider psychological stress contentions under NEPA in the restart proceeding.[10]

The Commission reviewed the Board's certification and voted 2-2, thus rejecting PANE's psychological distress contention (Pet. App. 77a-78a).

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of results of a particular event and not to the capabilities for measurement of predicted potential fears or distress associated with on-going operation of Unit 1. *Id.* at 53-54. Also, PANE made no offer to relate the result in this case to the accident as opposed to misinformation about the accident.

[7] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit No. 1* (Oct. 31, 1979) (Brief of Commission Staff on Psychological Distress Issues) at 51.

[8] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit No. 1* (Oct. 31, 1979) (Licensee's Brief Opposing Admission of Psychological Distress Contentions).

[9] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit 1*, 11 NRC 297 (ASLB Feb. 22, 1980) (Certification to the Commission on Psychological Distress Issues).

[10] *Id.* at 297.

In his separate statement, Chairman Ahearne agreed with the Board that the Commission is "not *required* to consider psychological stress" under NEPA and stated that the "best way to decrease such stress is to insure the plant is safe if it is approved for operation" (Pet. App. 80a).

In a particularly thorough discussion of the issues (Pet. App. 82a-91a), Commissioner Hendrie stated his view that under NEPA "the Commission has the discretionary authority to consider [psychological distress] effects, but that the present circumstances do not warrant such consideration in this case" (Pet. App. 87a).

> I believe . . . that the appropriate means for the Commission to deal with psychological stress in this case is to make a sound safety decision and to let the factual bases of its decision be disseminated widely

(Pet. App. 90a). Commissioner Hendrie further noted that "the problems of quantification and proof would be such as to make rational factfinding extremely difficult, as licensing boards and the Commission struggled to decide between the largely unprovable assertions of opposing sets of expert witnesses" (Pet. App. 89a).

Commissioners Gilinsky and Bradford stated their opinion that the Commission should exercise its discretion to consider psychological distress contentions under NEPA.[11]

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[11] Commissioner Gilinsky said the principle reason for his vote was the request of t heCommonwealth of Pennsylvania (Pet. App. 91a). Commissioner Bradford, voting for consideration of "psychological stress and community fears" (Pet. App. 94a), recognized that he did not know "whether stress related to Unit 1 is provable, whether it is quantifiable, or whether we should do anything about it" (Pet. App. 93a).

This decision was affirmed by a 3-2 vote on reconsideration by a full Commission (Pet. App. 101a).

On PANE's petition for review, the court of appeals concluded that "PANE's allegation—in the wake of a unique and traumatic nuclear accident—that renewed operation of TMI-1 may cause medically recognized impairment of the psychological health of neighboring residents is cognizable under NEPA" (Pet. App. 16a). In reaching this conclusion, Judge Wright accepted PANE's asertion that "[p]ost-traumatic neuroses, . . . , can be diagnosed with reasonable medical certainty on the basis of standardized quantitative tests" (Pet. App. 10a). Judge Wright then ruled that the psychological *health* effects identified by PANE are included within the meaning of "health" for purposes of NEPA on the basis of their susceptibility to reasonably certain medical diagnosis (Pet. App. 16a-17a).

SUMMARY OF ARGUMENT

The decision of the court of appeals is yet another attempt by the D.C. Circuit to dictate new procedures to the Commission under the guise of interpreting NEPA. Further, the Commission decided that its Congressional mandate dictates that it perform its technical responsibilities in a manner to give reasonable assurance that there is no rational basis for fear; to the extent that PANE would have a separate consideration of fear itself, it simply failed to meet the threshold test approved by this Court in *Vermont Yankee II*. And, finally, the correctness of the Commission's decision does not depend on the inadequacy of PANE's proffer; no proffer in support of PANE's contention could show it to be susceptible to a reasonable degree of proof.

ARGUMENT

I. THE DECISION ERRS IN REQUIRING THAT THE COMMISSION EMPLOY ADDITIONAL PROCEDURES TO RECONSIDER ITS DETERMINATION

By requiring the Commission to *redetermine* whether, since the preparation of the original environmental impact statement for TMI-1, "significant new circumstances or information have arisen with respect to the potential psychological health effects of operating the TMI-1 facility" (Pet. App. 104a) and, if so, to prepare a supplemental environmental impact statement, the court of appeals has rejected the procedures already employed by the Commission to consider this issue contrary to the direction of this Court in *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519, 554 (1978) (*"Vermont Yankee II"*). The court of appeals should have deferred to the Commission's interpretation of its own procedural requirements.[12]

In setting forth the procedures to be followed at the TMI-1 restart proceeding, the Commission not only followed its rules of procedure governing intervention, but supplemented those rules by allowing additional briefing of the psychological distress contentions. The Commission further required that the Board certify these issues, with or without a recommendation, to it for a decision. In carrying out this order, the Board required the parties to submit a preliminary plan for the presentation of evi-

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[12] Pursuant to the Commission's procedures governing intervention, "[a]ny person whose interest may be affected by a proceeding and who desires to participate as a party shall file a written petition for leave to intervene." 10 C.F.R. § 2.714(a)(1) (1982). Prior to the prehearing conference, the petitioner must also supplement its petition to include a list of contentions and the "bases for each contention set forth with reasonable specificity." 10 C.F.R. § 2.714(b) (1982); *see Northern Indiana Public Service Co. v. Porter County Chapter of the Izaak Walton League*, 423 U.S. 12 (1975); *National Wildlife Federation v. Appalachian Regional Commission*, 677 F.2d 883 (D.C. Cir. 1981); *North Slope Borough v. Andrus*, 642 F.2d 589 (D.C. Cir. 1980); *Natural Resources Defense Council, Inc. v. SEC*, 606 F.2d 1031 (D.C. Cir. 1979).

dence and advise it as to the state of the art of stress psychology and its ability to produce reliable evidence on the subject of psychological distress.

Although it was not explicitly described as a threshold test proceeding, the procedures employed by the Commission in effect required PANE to make a "threshold showing" that such contentions were both relevant and susceptible to a reasonable degree of proof. *Vermont Yankee II*, 435 U.S. at 533-35. Given the novelty of PANE's contention, and the fact that the Court of Appeals for the Sixth, Seventh and Eighth Circuits have held that NEPA does not encompass the psychological effects of a proposed major federal action, the imposition of a threshold test by the Commission was neither arbitrary nor capricious and the court of appeals should have deferred to the agency's structuring of its own proceeding.

The D.C. Circuit may be dissatisfied with the decision reached by the Commission. However, that fact alone does not justify its mandate that the Commission determine if "significant new circumstances or information" have arisen with respect to the potential health effects of the operation of TMI-1 since the shut-down. The Commission has already employed its own procedures to redetermine that issue and was not convinced, on the basis of the reluctant proffer of evidence submitted, that PANE's psychological distress contention was within the scope of NEPA. Reversal by this Court is necessary to remind the D.C. Circuit, once again, "that the role of a court in reviewing the sufficiency of an agency's consideration of environmental factors is a limited one, limited both by the time at which the decision was made and by the statute mandating review." *Vermont Yankee II*, 435 U.S. at 555.

The court of appeals struggled twice with drafting a judgment so that it could state in the latter version that "[t]he Commission may choose the procedures by which" it complies with the order. (Pet. App. 32a n.6). This

statement does not show compliance with the Court's direction in *Vermont Yankee II*; rather, its mere existence violates that order.

II. THE DECISION DOES NOT RECOGNIZE THE ADEQUACY OF THE COMMISSION'S RESPONSE TO A CONTENTION ALLEGING UNCERTAIN HARM FROM AN UNCERTAIN CAUSE

As we describe in the third argument below, there is nothing in the medical or scientific literature that would allow the Commission to assess with any degree of certainty the increase in psychological distress after the TMI accident, much less to determine whether it is associated with mental illness.

More importantly, perhaps, there is nothing that would allow the Commission to assess whether any increase in psychological distress was a result of the accident as opposed to a result of misinformation about the accident. At the time of the accident, there were many reports of imminent disaster based principally on a misunderstanding of what was occuring. We now know that the radiation release was quite minor and that there has been no damage to person or property other than the reactor itself. This suggests that the origin of any psychological distress is that misinformation.

To ask the Commission to consider fears based on misinformation would deny the rational basis of its decisionmaking as well as that of our whole governmental process. The Commission has been commanded by statute to regulate the conduct of nuclear activities with reasonable assurance of the public health and safety. If anything, the TMI accident should reassure the public that the design of licensed systems will protect the public and allay fear that human error can cause great harm to the public.

We strongly agree with former Chairman Hendrie that the Commission's efforts are best spent assuring nuclear safety (and thus the absence of a rational basis for fear),

not in "fruitless speculation about means of mollifying irrational fears" (Pet. App. 90a).

PANE's request that the Commission consider its psychological distress contention was a request that "the agency . . . embark upon an exploration of uncharted territory." *Vermont Yankee II*, 435 U.S. at 553. It was therefore incumbent upon PANE to make a showing that its psychological distress contention was susceptible to a reasonable degree of proof cognizable under NEPA, through the submission of draft and final contentions, briefs, and a preliminary plan for the presentation of evidence. The fact that PANE resisted presenting such a plan and ultimately failed to persuade the Commission does not render the procedures employed by the Commission arbitrary and capricious. Where an agency is alerted to certain speculative environmental consequences of a proposed action, weighs the environmental costs of proceeding with the project without more and better information, and decides that that cost is outweighed by the public benefits of proceeding with the project without further delay, "the courts may not substitute their judgment for that of the decisionmaker and insist that the project be delayed while more information is sought." *State of Alaska v. Andrus*, 580 F.2d at 465, 473-74 (D.C. Cir.) *vacated in part as moot* 439 U.S. 922 (1978). The court of appeals ignored its own teachings in the decision below.

III. THE DECISION ERRS IN ITS ASSUMPTION THAT PANE'S CONTENTION IS MEDICALLY RECOGNIZED AND SCIENTIFICALLY VALID

PANE's psychological distress contention alleges that the TMI-2 accident "impaired the health and sense of well being" of its members and others living in the vicinity of the reactor and that renewed operation of TMI-1 "would cause severe psychological distress" to such individuals (Pet. App. 115a). A premise for the consideration of *any* contention is that it be "susceptible of a reasonable degree of proof." *Vermont Yankee II*, 435 U.S. at 553.

Thus, consideration of PANE's contention is required only if PANE can show that all three of the following elements, implicit in its contention, are susceptible to a reasonable degree of proof: (1) post traumatic psychological distress is a mental illness; (2) the incidence and prevalence of post traumatic psychological distress resulting from the TMI-2 accident among the population in the vicinity of the plant are determinable using scientifically valid methods; and (3) it is possible to predict, using scientifically valid methods, the incidence and prevalance of post traumatic psychological distress which would be caused by the restart of TMI-1. An examination of PANE's preliminary plan for presentation of psychological distress evidence, the state of the art of stress psychology, and the specific studies of the TMI-2 incident indicate that PANE not only did not, but could not, make the requisite showing to satisfy the threshold test as to any one, much less all three, of these elements.

A. *Post Traumatic Psychological Distress is Not Medically Recognized As a Form of Mental Illness.*

PANE's psychological distress contention confuses mental illness with mental health and both with psychological distress. The court of appeals assumes that post traumatic psychological distress is a form of mental illness and as such is the antithesis of mental health and well being. But the relevant literature indicates that there is no well-defined and measurable relationship between mental illness and psychological health. Nor is it established that mental distress, including post traumatic psychological distress, constitutes mental illness.

There is no clear division between mental illness and mental health.[13] What is labeled mental health or diag-

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[13] *See, e.g., O'Connor v. Donaldson*, 422 U.S. 563, 578 (1975) (Burger, C. J. concurring): "The Court appropriately takes notice of the uncertainties of psychiatric diagnosis and therapy, and the reported cases are replete with evidence of the divergence of medical opinion in this vexing area [citation omitted]."

nosed as mental illness depends in part on societal values and the perceptions of the diagnostician.[14]

Before the Commission, PANE pointed to the fact that post traumatic psychological distress appears in THE DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS (3d ed. 1980) ("DSM-III") as evidence that it is a recognized form of mental illness. That reliance is misplaced. DSM-III expressly states that "there is no satisfactory definition that specifies precise boundaries for the concept 'mental disorder' ". *Id.* at 5. DSM-III was developed "to provide clear descriptions of diagnostic categories in order to enable clinicians and investigators to diagnose, communicate about, study, and treat various mental disorders." *Id.* at 12. Thus, the manual is to be used to diagnose an individual *who has already been found to be mentally ill*, not to determine the existence of mental illness. DSM-III states that the premise for application of its diagnostic criteria "is an inference that there is a behavioral, psychological, or biological disfunction, and that the disturbance is not only in the relationship between the individual and society." *Id.* at 6. Efforts to determine the psychological impact of the development and use of nuclear power on societal health have been beset with such confusion from the outset.[15] Here, the confusion is compounded since that post traumatic psychological distress cannot be simply assumed to be a form of mental illness.

Stress is often a normal and healthy reaction to numerous events in modern-day life; and, in some instances, the absence of a stress reaction could be symptomatic of

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[14] *See* Ennis & Litwack, *Psychiatry and the Presumption of Expertise: Flipping Coins in the Courtroom*, 62 CALIF. L. REV. 693, 708-09 (1974).

[15] *See* WORLD HEALTH ORGANIZATION, MENTAL HEALTH ASPECTS OF THE PEACEFUL USES OF ATOMIC ENERGY (TECHNICAL REPORT NO. 151, 1958).

mental illness. Experiencing stress following a catastrophic event therefore is not inconsistent with mental health and well being. In fact, numerous studies following the occurrence of a disaster have concluded that there was an overall beneficial effect on the exposed population. *See, e.g.*, Wilson, *Disaster and Mental Health* contained in BAKER & CHAPMAN, MAN AND SOCIETY IN DISASTER (1962) at 132-133. ("There is a good bit of evidence that disaster experience may constitute for many people an 'optimal stress' which promotes active mental harmony rather than psychiatric disorder.")[16]

For example, studies have found that the "extent of negative psychological consequences [of disasters] has been gravely overstated" and that, in fact, "[r]esearch based upon records of admissions to psychiatric treatment following disasters have [*sic*] indicated that such admissions declined rather than increased."[17]

More to the point, participants at a workshop on psychological stress associated with the proposed restart of Three Mile Island, Unit 1 convened by the Commission in response to the decision below, noted (Mitre Report, *supra*, note 16 at 11) that:

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[16] *See also* BARTON, COMMUNITIES IN DISASTER: A SOCIOLOGICAL ANALYSIS OF COLLECTIVE STRESS SITUATIONS (1970); Dynes & Quarentelli, *The Family and Community Context of Individual Reactions to Disaster* in PARAD, RESNICK & PARAD, EMERGENCY AND DISASTER MANAGEMENT: A MENTAL HEALTH SOURCE BOOK (1976); TAYLOR, DELIVERY OF MENTAL HEALTH SERVICES IN DISASTER: THE XENA TORNADO (Disaster Research Center, Ohio State University 1976); WALKER, FRAIZE, GORDON & JOHNSON, SUMMARY REPORT OF THE WORKSHOP ON PSYCHOLOGICAL STRESS ASSOCIATED WITH THE PROPOSED RESTART OF THREE MILE ISLAND, UNIT 1 (NUREG/CP-0026/MTR-82W26, April 1982) ("Mitre Report").

[17] Perry & Lindell, *The Psychological Consequences of Natural Disaster: A Review of Research on American Communities*, in 3 MASS EMERGENCIES 105-15 (1978).

> In assessing the effect of nuclear power on the psychological health of the community, it was felt important to recognize that stress and its responses are not necessarily harmful. While some in a nuclear plant community may be harmfully stressed, others may not be stressed at all or may use stress as a catalyst for establishing a stress-relieving coping response. For example, political efforts may lead to community cohesiveness, promoting feelings of satisfaction among community members.

In sum, there is no medical consensus that post traumatic psychological distress in itself constitutes a mental illness or that it even impairs mental health and well being. To the contrary, social science literature strongly suggests that disasters often have a beneficial effect on mental health and social interraction.

B. *The Incidence and Prevalence of Post Traumatic Psychological Distress Resulting From the TMI-2 Accident Cannot be Measured by Scientifically Valid Techniques.*

PANE's preliminary plan for the presentation of evidence indicated that its case would have consisted of four parts: (1) the evaluation of studies done by others on the psychological impacts of the accident; (2) the presentation of a comprehensive study to be done by PANE's expert witnesses on impacts in the area within five miles of TMI; (3) the testimony of individuals concerning their own experiences; and (4) the conclusions of PANE's expert witnesses concerning the psychological and community health impacts of the TMI Unit 2 accident and of the renewed operation of TMI Unit 1.[18] The following analysis demonstrates that PANE's evidence would not be probative.

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[18] *In the Matter of Metropolitan Edison Company, Three Mile Island Nuclear Station, Unit 1* (Nov. 2, 1979) (PANE Preliminary Plan for Presentation of Evidence on Psychological Distress) at 1.

Scientific Studies. (Parts 1 and 2): There is no generally accepted statistical method of measuring the incidence and prevalence of psychological distress in this designated population group. As the participants at the TMI workshop noted, "knowledge about the TMI population, while more complete than that available for most populations, is not sufficient. There are no baseline, pre-accident data on the population, and the post-accident data are incomplete." Mitre Report, *supra*, note 16 at 48. Any additional studies conducted by PANE would suffer from similar major deficiencies—*i.e.*, lack of pre-accident baseline data.

The measurement of psychological distress following the TMI-2 accident is further complicated since the accident was characterized by uncertainty at that time as to any actual damage. Thus, the TMI-2 situation is qualitatively different from other "disaster" studies because, to the extent psychological distress resulted at TMI, it resulted in large measure from uncertainty and fear of the unknown, rather than from significant actual loss or injury. Moreover, it is unclear whether fear and anxiety experienced by the population was a result of the accident or a result of the media's coverage.[19]

Anecdotal responses. (Part 3): Self diagnosis by individuals of an alleged affected population is simply non-probative of the contention advanced. The Board itself recognized the "doubtful value" of testimony regarding personal experiences. 11 N.R.C. at 309.

Expert opinions. (Part 4): The testimony of PANE's expert witnesses need not even be admitted in the restart proceeding due to the lack of a threshold competency. In *Frye v. United States*, 293 F. 1013, 1014 (D.C. Cir.

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[19] The Mitre report stated: "It was noted that the media has a major effect on the public's understanding of nuclear power, since for most individuals it is their only contact, albeit an indirect one, with the technology." Mitre Report, *supra*, note 16 at xvi.

1923),[20] the D.C. Circuit refused to admit expert testimony regarding the results of a systolic blood pressure deception test into evidence because the test had:

> not yet gained such standing and scientific recognition among physiological and psychological authorities as would justify the courts in admitting expert testimony deduced from the discovery, development, and experiments thus far made.

Application of the *Frye* rule is particularly apt here since this proceeding is not a traditional area of psychiatric expert opinion.[21] The limitations of psychiatric expert opinion evidence are explicitly noted in DSM-III, at 12:

> The use of this manual for non-clinical purposes, such as determination of legal responsibility, competency or insanity, or justification for third-party payment, must be critically examined in each instance within the appropriate institutional context.

In accepting at face value PANE's allegation "that renewed operation of TMI-1 may cause medically recognizable impairment of the psychological health of neighboring residents", (Pet. App. 16a), the court of appeals by legerdemain relieved PANE of its burden of establishing that the techniques to be relied on by its experts

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[20] For the continuing vitality of the *Frye* rule, *see Warlich v. State of Arizona*, 479 F.2d 1137 (9th Cir.), *cert. denied*, 414 U.S. 1011 (1973) (exclusion of psychiatric testimony directed to a retrospective analysis of the subtle gradations of specific intent); *United States v. Kilgus*, 571 F.2d 508 (9th Cir. 1978) (exclusion of the results of a Forward Looking Infrared System); *State of New York v. Hughes*, No. 82-390 (N.Y. App. Div. July 9, 1982); and *People v. Shirley*, 31 Cal.3d 18, 181 Cal. Rptr. 243, 641 P.2d 775 (1981) (testimony of a witness concerning hypnotically produced recall).

[21] *See, e.g., Addington v. State of Texas*, 441 U.S. 418, 420 (1979) (civil proceeding brought under state law to commit an individual involuntarily to state mental hospital).

are "generally accepted as reliable in the relevant scientific community." *People v. Shirley*, 31 Cal.3d at 54. As the Supreme Court of California observed, the rule "is not fulfilled merely by evidence that one expert personally believes the challenged procedure is reliable; the court must be able to find that the procedure is generally accepted as reliable by the larger scientific community in which it originated." *Id.* at 54 n.32.

C. *There is No Generally Accepted Scientific Method of Predicting The Incidence and Prevalence of Post Traumatic Psychological Distress.*

Finally, and most significantly, there is no scientifically available method for predicting the incidence and prevalence of psychological distress as a result of any event, much less a benign event such as the restart of TMI-1. PANE's prediction is, in essence, a hypothesis. Although this hypothesis is couched in scientific terms, it does not meet the criteria necessary to constitute a legitimate scientific hypothesis primarily because there is no demonstrated statistical relationship between the occurrence of alleged psychological distress as a result of the TMI-2 accident and the occurrence of predicted psychological distress at the restart of TMI-1.

The general disaster studies conducted in various other contexts and the specific studies conducted on the psychological effect of the TMI-2 accident are the only bases on which to predict the occurrence of psychological distress as a result of the restart of TMI-1. The Mitre Report, *supra*, note 16 at xiii suggests that they are inadequate for this purpose:

> Although a body of literature exists on responses to natural disasters and other transient stresses, the issue of its applicability to a TMI-1 restart remains unresolved.

However, Ronald W. Perry, a participant in that TMI workshop, had a different view, *id.* at 101:

> If unit one is restarted, will a significant proportion of nearby citizens experience psychological stress and manifest debilitating symptoms? The answer is no. There is no social scientific evidence in the specific studies of the TMI area or in the general literature on life event stress which even remotely suggests otherwise.

Thus, a review of PANE's preliminary plan for presentation of psychological distress evidence, the state of the art of stress psychology, and the specific studies of the TMI-2 incident indicate that PANE could not make the requisite showing that its contention was either medically recognized or scientifically valid. The court of appeals erred in assuming otherwise.

CONCLUSION

For the reasons stated above, the petitions for a writ of certiorari should be granted and the decision of the court of appeals should be summarily reversed.

Respectfully submitted,

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